

JAN 05 2004 3:50 PM FR

Rec'd T/PTO 05 JAN 2004

TO 917033053230

13
P.01

Johnson & Johnson

**CORPORATE HEADQUARTERS
PATENT LAW DEPARTMENT
ONE JOHNSON & JOHNSON PLAZA
NEW BRUNSWICK, NEW JERSEY 08933**

FACSIMILE TRANSMISSION COVER SHEET

TO: Winston M. Alvarado

FACSIMILE NUMBER: (703) 305-3230

FROM: Laura Donnelly
Senior Patent Counsel
Johnson & Johnson
One Johnson & Johnson Plaza
New Brunswick, NJ 08933-7003
Tel: (732) 524-1729

J&J FACSIMILE NUMBER: (732) 524-2134

DATE: January 5, 2004

Pages (including cover page): 23

COMMENTS:

RE: 09/869,079 (OUR REF. NO. JAB-1458).

In response to your request, attached is a copy of the Petition for Revival and related papers submitted deposited with the U.S. Post Office on September 30, 2003. Included is the date stamped post card, dated October 3, 2003, acknowledging the Patent Office's receipt of the documents. Not included is a computer copy of the Sequence Listing for obvious reasons. I understand that you will forward these documents to legal for its determination of the petition. We will keep a copy of the Notification of Abandonment mailed December 4, 2003 in our files and await resolution of the petition.

**IF THERE IS A PROBLEM WITH THIS TRANSMISSION, PLEASE CALL
(732) 524-1760**

04ZEBR000000000023000000002500070006905

IMPORTANT: This Fax contains information which is confidential and may be subject to legal privilege. If you are not the intended recipient, you must not read, use, disseminate, distribute or copy this fax. If you have received this fax in error, please inform us immediately by return fax or by phone and delete this fax. Thank you

BEST AVAILABLE COPY

Serial No. 09/869,019 Docket No. JAB-1458 By LAO
Application of: MANURE ET AL Mailed: Sept. 30, 2003
Entitled: HUMAN AKT-3

THE FOLLOWING HAS BEEN RECEIVED IN THE U.S. PATENT OFFICE ON THE DATE STAMPED HEREON:

- | | |
|---|--|
| <input type="checkbox"/> Oath or Declaration | <input type="checkbox"/> MPEP 609 |
| <input type="checkbox"/> Assignment | <input type="checkbox"/> Notice of Appeal |
| <input checked="" type="checkbox"/> Charge to Deposit Account 10-0750 | <input type="checkbox"/> Brief |
| <input type="checkbox"/> Amendment | <input type="checkbox"/> Priority Document |
| <input type="checkbox"/> Extension of Time | <input type="checkbox"/> Status Inquiry |
| <input type="checkbox"/> Issue Fee Transmittal | <input checked="" type="checkbox"/> Sequence Listings/Diskette ^{+ verified statement} |
| <input type="checkbox"/> PCT Filing | <input type="checkbox"/> Biological Deposit Declaration |
| <input type="checkbox"/> IDS-Form 1449 | <input checked="" type="checkbox"/> Other ^{Petition for Revival of} |
| <input type="checkbox"/> Drawings <u> </u> sheets | ^{or Application} |
| | ^{Response to Notice of Defective} |
| | ^{Response + Prelim. Amendment} |

DOCKET NO.: JAB-1458

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicants: Masure et al.

Art Unit: Unknown

Serial No.: 09/869,079

Examiner: Unknown

Filed: LA. 12/17/99

For: HUMAN AKT-3

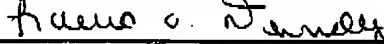
I hereby certify that this correspondence is being deposited with the
United States Postal Service as first class mail in an envelope addressed
to: MAIL STOP PETITION, Commissioner for Patents, P.O. Box 1450,
Arlington, VA 22313-1450 on

September 30, 2003

(Date of Deposit)

Laura A. Donnelly

Name of applicant, assignee, or Registered Representative



(Signature)

September 30, 2003

(Date of Signature)

MAIL STOP PETITION
Commissioner for Patents
P.O. Box 1450
Arlington, VA 22313-1450


**PETITION FOR REVIVAL OF AN APPLICATION
FOR PATENT ABANDONED UNINTENTIONALLY UNDER 37 CFR 1.137(b)**

The above-identified application became abandoned for failure to file a timely and proper reply to a notice or action by the United States Patent and Trademark Office. The date of abandonment is the day after the expiration date of the period set for reply in the Office notice or action plus an extensions of time actually obtained.

NOTE: A grantable petition requires the following items:

- (1) Petition fee;
- (2) Reply and/or issue fee;
- (3) Terminal disclaimer with disclaimer fee —required for all utility and plant applications filed before June 8, 1995; and for all design applications; and
- (4) Statement that the entire delay was unintentional.

1. Petition fee
☐ Small entity-fee \$ _____ (37 CFR 1.17(m)). Applicant claims small entity status. See 37 CFR 1.27.
☒ Other than small entity-fee \$ 110.00 (37 CFR 1.17(m))
2. Reply and/or fee
A. The reply and/or fee to the above-noted Office action in the form of Response to Notice of Defective Response and Preliminary Amendment, including ⁷sequence listing (identify type of reply):
☐ has been filed previously on _____
☒ is enclosed herewith.
B. The issue fee of \$ _____
☐ has been paid previously on _____
☐ is enclosed herewith.
3. Terminal disclaimer with disclaimer fee
☒ Since this utility/plant application was filed on or after June 8, 1995, no terminal disclaimer is required.
☐ A terminal disclaimer (and disclaimer fee (37 CFR 1.20(d)) of \$ _____ for a small entity or \$ _____ for other than a small entity) disclaiming the required period of time is enclosed herewith (see PTO/SB/63).
4. STATEMENT: The entire delay in filing the required reply from the due date for the required reply until the filing of a grantable petition under 37 CFR 1.137(b) was unintentional. [NOTE. The United States Patent and Trademark Office may require additional information if there is a question as to whether either the abandonment or the delay in filing a petition under 37 CFR 1.137(b) was unintentional (MPEP 711.03(c), subsections (III)(C) and (D))].
5. Fee payment:
☒ Charge the petition fee of \$110.00 to Account 10-0750/JAB-1458/LAD and for any additional fee required. A duplicate of this petition is attached.
☐ A check in the sum of \$ _____ is attached.
☒ Charge Account 10-0750/JAB-1458/LAD for any additional fee required.


Laura A. Donnelly
Reg. No.: 38,435
Attorney for Applicant(s)

JOHNSON & JOHNSON
One Johnson & Johnson Plaza
New Brunswick, NJ 08933
Tel. No.: (732) 524-1729

Date: September 30, 2003

Enclosures: ☒ Fee Payment ☐ Terminal Disclaimer Form
☒ Reply ☐ Additional sheets containing
statements establishing unintentional
delay
☒ Other: Preliminary Amendment and Sequence Listing

Docket No. JAB-1458

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicants : MASURE et al.
Serial No. : 09/869,079
Filed : I.A. 12/17/99
Title : HUMAN AKT-3
Art Unit : Unassigned
Examiner : Unassigned

I hereby certify that this correspondence is being deposited with the
United States Postal Service as first class mail in an envelope addressed
to: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450 on

September 30, 2003

(Date of Deposit)

Laura A. Donnelly

(Name of applicant, assignee, or Registered Representative)

Laura A. Donnelly

(Signature)

September 30, 2003

(Date of Signature)

MAIL STOP PETITION
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

RESPONSE TO NOTICE OF DEFECTIVE RESPONSE
AND PRELIMINARY AMENDMENT

Dear Sir:

Prior to examination on the merits, please amend the above-identified application as follows:

Serial No. 09/869,079

Amendments to the Specification

Please replace the paragraph beginning at page 3, line 20, with the following amended paragraph:

Figure 1 is an alignment of the deduced amino acid sequences for human Akt-1, Akt-2 and Akt-3 (SEQ ID No. 3). The sequences were aligned using the ClustalW alignment program (EMBL, Heidelberg, Germany). Amino acid residues conserved between all three proteins are included in the black areas. Residues conserved between only two of the sequences are shaded in grey. Amino acid residues are numbered in the right hand column. The conserved Thr and Ser residues that are presumed to be phosphorylated upon activation are marked with an asterisk above the sequence.

Please replace the paragraph beginning at page 19, line 16, with the following amended paragraph:

Molecular cloning of human Akt-3.

Using the rat RAC-Pky sequence (Konishi et al, 1995; GenBank acc. No. D49836) as a query sequence, a BLAST (Basic Local Alignment Search Tool; Altschul et al., 1990) search was carried out in the WashU Merck expressed sequence tag (EST) database (Lennon et al., 1996) and in the proprietary LifeSeq™ human EST database (Incyte Pharmaceuticals Inc, Palo Alto, CA, USA). Several human EST clones with high similarity to the rat RAC-Pky were identified. One EST sequence (Incyte accession number 2573448) derived from a hippocampal cDNA library, contained part of the coding sequence including the putative methionine start codon (ATG) and part of the 5' untranslated region. The start codon was surrounded by a Kozak consensus sequence for translation start and an in-frame stop codon was present at positions -6 to -3. Based on this 239 bp sequence, oligonucleotide sense primers were synthesised for 3' rapid amplification of cDNA ends (3' RACE) experiments: Akt-3sp1 = 5'-ACC ATT TCT CCA AGT TGG GGG CTC AG-3' (SEQ ID No: 4) and Akt-3sp2 = 5'GGG AGT CAT CAT GAG CGA TGT TAC C-3' (SEQ ID No: 5). 3'RACE experiments were performed on human fetal brain or human cerebellum Marathon-Ready™ cDNA (Clontech Laboratories, Palo Alto, CA, USA) according to ~~manufacturer's~~ manufacturers instructions using Akt-3sp1/race-ap1 as primers in the primary PCR and Akt-3sp2/race-ap2 in the nested PCR. Resulting PCR

Serial No. 09/869,079

fragments were cloned and sequenced. This extended the Akt-3 coding sequence by 916 bp, but the novel sequence did not include an in-frame stop codon. A second round of 3' RACE amplification was performed on human brain Marathon-Ready™ cDNA using sense primers based on the sequence obtained in the first round (Akt-3sp3 = 5'CAC TCC AGA ATA TCT GGC ACC AGA GG-3' (SEQ ID No: 6) and Akt-3sp4 = 5' CTA TGG CCG AGC AGT AGA CTG GTG G-3' (SEQ ID No: 7)) in combination with race-ap1 and race-ap2, respectively. The sequence obtained included an in-frame stop codon and the 3' untranslated sequence up to the poly(A) tail. Antisense primers were designed based on the 3' untranslated region (Akt-3ap4 = 5'-TGC CCC TGC TAT GTG TAA GAG CTA GG-3' (SEQ ID No: 8)) and Akt-3ap5 = 5' AAG AGC TAG GAC TGG TGA TGT CCA GG-3' (SEQ ID No: 9)) and the complete Akt-3 coding sequence was amplified from human hippocampal cDNA using Akt-3sp1/Akt-3ap4 (primary PCR) and Akt-3sp2/Akt-3ap5 (nested PCR) as primers. The resulting 1200 bp PCR fragment was then cloned in the TA-cloning vector pCR2.1 (original TA cloning kit, Invitrogen BV, Leek, The Netherlands) and the inserts of several clones were completely sequenced. One clone containing an insert with the confirmed sequence (hAkt-3/pCR2.1) was used for subsequent subcloning to the mammalian expression vector pcDNA-3 (Invitrogen), yielding construct hAkt-3/pcDNA-3. In order to make a construct coding for a COOH-terminal tagged Akt-3 protein, a fragment of 553 bp was amplified from plasmid Akt-3/pcDNA-3 using an antisense primer incorporating a *Xho*I restriction site and the sequence coding for a hemagglutinin (HA) tag (YPYDVPDYA) after amino acid 479 of the Akt-3 sequence. This fragment was recloned into plasmid hAkt-3/pcDNA-3 using *Bsr*II and *Xho*I restriction sites yielding construct HA-hAkt-3/pcDNA-3.

Please replace the paragraph beginning at page 25, line 2, with the following amended paragraph:

Reverse transcription (RT)-PCR analysis

Oligonucleotide primers were designed for the specific PCR amplification of a fragment from Akt-3. These primers were Akt-3sp2 = 5' -GGG AGT CAT CAT GAG CGA TGT TAC C-3' (SEQ ID No: 10) (sense primer) and Akt-3ap1 = 5' - GGG TTG TAG AGG CAT CCA TCT CTT CC - 3' (SEQ ID No: 11) (antisense primer), yielding a 425 bp product. PCR amplifications for human glyceraldehyde-3-phosphate dehydrogenase (G3PDH) were performed

Serial No. 09/869,079

on the same cDNA samples as positive controls using G3PDH primers 5' – TGA AGG TCG GAG TCA ACG GAT TTG GT-3' (sense primer) and 5' –CAT GTG GGC CAT GAG GTC CAC CAC-3' (antisense primer), yielding a 1000 bp fragment. These primers were used for PCR amplifications on Multiple Tissue cDNA panels (Clontech Laboratories) and on cDNA prepared from tumor cell lines. For the preparation of tumor cell cDNA, cells were homogenised and total RNA prepared using the RNeasy Mini kit (Qiagen GmbH, Hilden, Germany) according to manufacturer's instructions. 1 Fg of total RNA was reverse transcribed using oligo(dT)₁₅ as a primer and 50 U of ExpandTM Reverse Transcriptase (Boehringer Mannheim, Mannheim, Germany) according to the manufacturer's instructions. PCR reactions with Akt-3-specific or G3PDH-specific primers were then performed on 1 Fl of cDNA. Images of the ethidium bromide stained gels were obtained using the Eagle Eye II Video system (Stratagene, La Jolla, CA, USA) and PCR bands analysed using the EagleSight software.

Please replace the paragraph beginning at page 27, line 20, with the following amended paragraph:

The predicted Akt-3 (Figure 1) protein shows significant similarity with Akt-1 (Jones et al., 1991; 83.6% identity; 87.8% similarity) and with Akt-2 (Cheng et al., 1992; 78% identity; 84.3% similarity). The COOH-terminal tail has been observed in both human and rat Akt-1 and Akt-2 proteins, but it is apparently truncated in the only other reported Akt-3 sequence (rat Akt-3, Konishi et al., 1995; accession number D49836). 3'RACE experiments performed on human cDNAs derived from different tissues did not yield evidence for the existence of a shorter form of Akt-3 that would be analogous to the rat Akt-3 (data not shown). The tail in human Akt-3 comprises 28 amino acid residues (YDEDGMDCMDNERRPHFPQFSYSASGRE) (SEQ ID No: 12) that replace 3 amino acid residues in the rat sequence (CPL). The tail in human Akt-3 contains a serine residue at position 472 (shown in bold) that corresponds to Ser⁴⁷³ in Akt-1 or Ser⁴⁷⁴ in Akt-2. Phosphorylation of Ser⁴⁷³ and Ser⁴⁷⁴ has previously been implicated in the activation of Akt-1 and Akt-2, respectively (Alessi et al., 1996; Meier et al., 1997). Thr³⁰⁸ (in the kinase domain) has also been implicated in the activation of Akt-1 and this residue is also conserved in human Akt-3 (Thr³⁰⁵).

Please replace pages 45-51 with pages 45-53 attached hereto.

JAN 05 2004 3:51 PM FR

TO 917033053230

P.10

Serial No. 09/869,079

Amendment to the Drawings

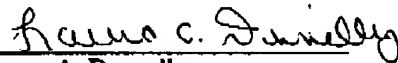
The amendment to the drawings is attached hereto as a replacement sheet for Fig. 1.

Serial No. 09/869,079

REMARKS

In response to the Notification of Defective Response, dated December 5, 2002, enclosed herewith is a computer readable Sequence Listing, a paper copy and the required Verification Statement Under 37 C.F.R. 1.821(f). This response is also accompanied by a Petition for Revival of an Application for Patent Abandoned Unintentionally Under 37 C.F.R. 1.137(b). As indicated in the Notification, although Applicants originally provided a computer readable Sequence Listing, the copy provided did not comply with 37 C.F.R. §§ 1.821-1.825. Applicants respectfully submit that all of the requirements for the Notification have now been met. Early consideration and prompt allowance of the pending claims are respectfully requested.

Respectfully Submitted,


Laura A. Donnelly
Registration No. 38,435

Johnson & Johnson
One Johnson & Johnson Plaza
New Brunswick, NJ 08933-7003
(732) 524-1729 (direct)
(732) 524-2134 (facsimile)

Dated: September 30, 2003

Enclosures:

Revised Fig. 1
Computer Readable Sequence Listing
Paper Copy
Verification Statement Under 37 C.F.R. 1.821(f)

DOCKET NO.: JAB-1458

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicants: MASURE et al.

For: HUMAN AKT-3

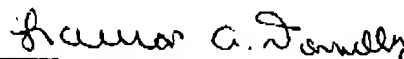
Filed: I.A. 12/17/99

Serial No: 09/869,079

VERIFIED STATEMENT UNDER 37 CFR §1.825

I hereby verify that the computer readable diskette and paper copy enclosed herewith include no new matter, and that this statement is made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that willful false statements may jeopardize the validity of the application or any patent issued thereon.

Respectfully Submitted,



Laura A. Donnelly
Registration No. 38,435

Johnson & Johnson
One Johnson & Johnson Plaza
New Brunswick, NJ 08933-7003
(732) 524-1729 (direct)
(732) 524-2134 (facsimile)

Dated: September 30, 2003

SEQUENCE LISTING

<110> Masure, Stefan
Richardson, Alan

<120> Human AKT-3

<130> JAB-1450

<140> US 09/869,079

<141> 1999-12-17

<150> PCT/GB99/04311

<151> 1999-12-17

<160> 12

<170> PatentIn Ver. 2.0

<210> 1

<211> 1547

<212> DNA

<213> Homo sapiens

<400> 1

gggagtcac atgagcgatg ttaccattgt gaaagaaggt tgggttcaga agaggggaga 60
atatataaaa aactggaggc caagatactt ccttttgaag acagatggct cattcatagg 120
atataaagag aaacctcaag atgtggattt accttatccc ctcaacaact ttccagtggc 180
aaaatgccag ttaatgaaaa cagaacgacc aaagccaaac acatttataa tcagatgtct 240

ccagtggact actgttatag agagaacatt tcatgtagat actccagagg aaagggaaga 300
atggacagaa gctatccagg ctgtagcaga cagactgcag aggcaagaag aggagagaat 360
gaattgtagt ccaacttcac aaattgataa tataggagag gaagagatgg atgcctctac 420
aaccatcat aaaagaaaga caatgaatga ttttgactat ttgaaactac taggttaaagg 480
cacttttggg aaagtatttt tggttcgaga gaaggcaagt ggaaaatact atgctatgaa 540
gattctgaag aaagaagtca ttattgcaaa ggatgaagtg gcacacactc taactgaaag 600
cagagtatta aagaacacta gacatccctt ttttaacatcc ttgaaatatt ccttccagac 660
aaaagaccgt ttgtgttttg tgatggaata tgttaatggg ggcgagctgt ttttccattt 720
gtcgagagag cgggtgttct ctgaggaccg cacacgtttc tatggtgcag aaattgtctc 780
tgccttggac tatctacatt ccggaagat tgtgtaccgt gatctcaagt tggagaatct 840
aatgctggac aaagatggcc acataaaaat tacagatttt ggactttgca aagaagggat 900
cacagatgca gccacatga agacattctg tggcactcca gaatatctgg caccagaggt 960
gttagaagat aatgactatg gcgagcagt agactggtgg ggcctagggg ttgtcatgta 1020
tgaaatgatg tgtgggaggt tacctttcta caaccaggac catgagaaac tttttgaatt 1080
aatattaatg gaagacatta aatttctctg aacactctct tcagatgcaa aatcattgct 1140
ttcagggctc ttgataaagg atccaaataa acgccttggg ggaggaccag atgatgcaa 1200
agaaattatg agacacagtt tcttctctgg agtaaaactgg caagatgtat atgataaaaa 1260
gcttgtacct ccttttaaac ctcaagtaac atctgagaca gatactagat attttgatga 1320
agaatttaca gctcagacta ttacaataac accacctgaa aaatatgatg aggatgggtat 1380
ggactgcatg gacaatgaga ggcggccgca tttccctcaa ttttctact ctgcaagtgg 1440
acgagaataa gtctctttca ttctgctact tcactgtcat cttcaattta ttactgaaaa 1500
tgattcctgg acatcaccag tcttagctct tacacatagc aggggca 1547

<210> 2

<211> 1436

<212> DNA

<213> Homo sapiens

<400> 2

atgagc gatg ttaccattgt gaaagaaggt tgggttcaga agaggggaga atatataaaa 60
aactggagge caagatactt ccttttgaag acagatggct cattcatagg atataaagag 120
aaacctcaag atgtggattt acottatccc ctcaacaact tttcagtggc aaaatgccag 180
ttaatgaaaa cagaacgacc aaagccaaac acattttataa tcagatgtct ccagtggact 240
actgttatag agagaacatt tcatgtagat actccagagg aaagggaga atggacagaa 300
gctatccagg ctgtagcaga cagactgcag aggcagaag aggagagaat gaattgtagt 360
ccaacttcac aaattgataa tataggagag gaagagatgg atgcctctac aacccatcat 420
aaaagaaga caatgaatga ttttgactat ttgaaactac taggtaaagg cacttttggg 480
aaagtatttt tgggttcgaga gaaggcaagt ggaaaatact atgctatgaa gattctgaag 540
aaagaagtca ttattgcaaa ggatgaagtg gcacacactc taactgaaag cagagtatta 600
aagaacacta gacatccctt tttaacatcc ttgaaatatt ccttcagac aaaagaccgt 660
ttgtgttttg tgatggaata tgttaatggg ggcgagctgt ttttccattt gtcgagagag 720
cgggtgttct ctgaggaccg cacacgtttc tatggtgcag aaattgtctc tgccttggac 780
tatctacatt ccggaaagat tgtgtaccgt gatctcaagt tggagaatct aatgctggac 840
aaagatggcc acataaaaat tacagatttt ggactttgca aagaagggat cacagatgca 900
gccaccatga agacattctg tggcactcca gaatatctgg caccagaggt gttagaagat 960
aatgactatg gccgagcagt agactgggtg ggcctagggg ttgtcatgta tgaaatgatg 1020
tgtgggaggt tacctttcta caaccaggac catgagaaac tttttgaatt aatattaatg 1080
gaagacatta aatttcctcg aacactctct tcagatgcaa aatcattgct ttcagggctc 1140
ttgataaagg atccaaataa acgccttggg ggaggaccag atgatgcaaa agaaattatg 1200
agacacagtt tcttctctgg agtaaaactgg caagatgtat atgataaaaa gcttgtacct 1260
ccttttaaac ctcaagtaac atctgagaca gatactagat attttgatga agaatttaca 1320
gctcagacta ttacaataac accacctgaa aaatatgatg aggatgggtat ggactgcatg 1380
gacaatgaga ggcgggccga tttccctcaa ttttctact ctgcaagtga acgaga 1436

<210> 3

<211> 479

<212> PRT

<213> Homo sapiens

<400> 3

Met Ser Asp Val Thr Ile Val Lys Glu Gly Trp Val Gln Lys Arg Gly
1 5 10 15

Glu Tyr Ile Lys Asn Trp Arg Pro Arg Tyr Phe Leu Leu Lys Thr Asp
20 25 30

Gly Ser Phe Ile Gly Tyr Lys Glu Lys Pro Gln Asp Val Asp Leu Pro
35 40 45

Tyr Pro Leu Asn Asn Phe Ser Val Ala Lys Cys Gln Leu Met Lys Thr
50 55 60

Glu Arg Pro Lys Pro Asn Thr Phe Ile Ile Arg Cys Leu Gln Trp Thr
65 70 75 80

Thr Val Ile Glu Arg Thr Phe His Val Asp Thr Pro Glu Glu Arg Glu
85 90 95

Glu Trp Thr Glu Ala Ile Gln Ala Val Ala Asp Arg Leu Gln Arg Gln
100 105 110

Glu Glu Glu Arg Met Asn Cys Ser Pro Thr Ser Gln Ile Asp Asn Ile
115 120 125

Gly Glu Glu Glu Met Asp Ala Ser Thr Thr His His Lys Arg Lys Thr

130 135 140
Met Asn Asp Phe Asp Tyr Leu Lys Leu Leu Gly Lys Gly Thr Phe Gly
145 150 155 160
Lys Val Ile Leu Val Arg Glu Lys Ala Ser Gly Lys Tyr Tyr Ala Met
165 170 175
Lys Ile Leu Lys Lys Glu Val Ile Ile Ala Lys Asp Glu Val Ala His
180 185 190
Thr Leu Thr Glu Ser Arg Val Leu Lys Asn Thr Arg His Pro Phe Leu
195 200 205
Thr Ser Leu Lys Tyr Ser Phe Gln Thr Lys Asp Arg Leu Cys Phe Val
210 215 220
Met Glu Tyr Val Asn Gly Gly Glu Leu Phe Phe His Leu Ser Arg Glu
225 230 235 240
Arg Val Phe Ser Glu Asp Arg Thr Arg Phe Tyr Gly Ala Glu Ile Val
245 250 255
Ser Ala Leu Asp Tyr Leu His Ser Gly Lys Ile Val Tyr Arg Asp Leu
260 265 270
Lys Leu Glu Asn Leu Met Leu Asp Lys Asp Gly His Ile Lys Ile Thr
275 280 285

Asp Phe Gly Leu Cys Lys Glu Gly Ile Thr Asp Ala Ala Thr Met Lys
290 295 300

Thr Phe Cys Gly Thr Pro Glu Tyr Leu Ala Pro Glu Val Leu Glu Asp
305 310 315 320

Asn Asp Tyr Gly Arg Ala Val Asp Trp Trp Gly Leu Gly Val Val Met
325 330 335

Tyr Glu Met Met Cys Gly Arg Leu Pro Phe Tyr Asn Gln Asp His Glu
340 345 350

Lys Leu Phe Glu Leu Ile Leu Met Glu Asp Ile Lys Phe Pro Arg Thr
355 360 365

Leu Ser Ser Asp Ala Lys Ser Leu Leu Ser Gly Leu Leu Ile Lys Asp
370 375 380

Pro Asn Lys Arg Leu Gly Gly Gly Pro Asp Asp Ala Lys Glu Ile Met
385 390 395 400

Arg His Ser Phe Phe Ser Gly Val Asn Trp Gln Asp Val Tyr Asp Lys
405 410 415

Lys Leu Val Pro Pro Phe Lys Pro Gln Val Thr Ser Glu Thr Asp Thr
420 425 430

Arg Tyr Phe Asp Glu Glu Phe Thr Ala Gln Thr Ile Thr Ile Thr Pro

435

440

445

Pro Glu Lys Tyr Asp Glu Asp Gly Met Asp Cys Met Asp Asn Glu Arg

450

455

460

Arg Pro His Phe Pro Gln Phe Ser Tyr Ser Ala Ser Gly Arg Glu

465

470

475

<210> 4

<211> 26

<212> DNA

<213> Homo sapiens

<400> 4

accattttctc caagttgggg gctcag

26

<210> 5

<211> 25

<212> DNA

<213> Homo sapiens

<400> 5

gggagtcctc atgagcgatg ttacc

25

<210> 6

<211> 26

<212> DNA

<213> Homo sapiens

<400> 6

cactccagaa tatctggcac cagagg

26

<210> 7

<211> 25

<212> DNA

<213> Homo sapiens

<400> 7

ctatggccga gcagtagact ggtgg

25

<210> 8

<211> 26

<212> DNA

<213> Homo sapiens

<400> 8

tgccccctgct atgtgtaaga gctagg

26

<210> 9

<211> 26

<212> DNA

<213> Homo sapiens

<400> 9

aagagctagg actggtgatg tccagg

26

<210> 10

<211> 25

<212> DNA

<213> Homo sapiens

<400> 10

gggagtcac atgagcgatg ttacc

25

<210> 11

<211> 26

<212> DNA

<213> Homo sapiens

<400> 11

gggttgtaga ggcacccac tcttcc

26

<210> 12

<211> 28

<212> PRT

<213> Homo sapiens

<400> 12

tyr asp glu asp gly met asp cys met asp asn glu Xaa Xaa pro Xaa

1

5

10

15

phe pro gln phe ser tyr ser ala ser gly RRR glu

20

25

30

**This Page is Inserted by IFW Indexing and Scanning
Operations and is not part of the Official Record**

BEST AVAILABLE IMAGES

Defective images within this document are accurate representations of the original documents submitted by the applicant.

Defects in the images include but are not limited to the items checked:

- ☐ BLACK BORDERS
- ☐ IMAGE CUT OFF AT TOP, BOTTOM OR SIDES
- ☐ FADED TEXT OR DRAWING
- ☒ BLURRED OR ILLEGIBLE TEXT OR DRAWING
- ☐ SKEWED/SLANTED IMAGES
- ☐ COLOR OR BLACK AND WHITE PHOTOGRAPHS
- ☐ GRAY SCALE DOCUMENTS
- ☐ LINES OR MARKS ON ORIGINAL DOCUMENT
- ☐ REFERENCE(S) OR EXHIBIT(S) SUBMITTED ARE POOR QUALITY
- ☐ OTHER: _____

IMAGES ARE BEST AVAILABLE COPY.

As rescanning these documents will not correct the image problems checked, please do not report these problems to the IFW Image Problem Mailbox.